

How Cognitive Biases Drive Investment Behavior: Analyzing Indonesian Investors' Financial Choice

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ABSTRACT

This research investigates the impact of three cognitive biases—disposition bias, representativeness bias, and anchoring bias—on investment decision-making, specifically in the context of Indonesian investors. These biases are examined as key psychological factors that influence how investors make financial choices and how these decisions shape their investment behavior. The study also considers the role of these biases in influencing investment outcomes, providing insights into how cognitive factors affect the financial decision-making process. The target population consists of Indonesian investors aged between 18 and 60, all of whom have prior experience in capital market investments. The respondents are selected to ensure diversity, with a focus on gaining insights from both male and female participants. The research uses a sample of 105 respondents, with data analysis conducted through SPSS 20.0 to evaluate three hypotheses related to the influence of disposition, representativeness, and anchoring biases on investment decisions. The t-test results indicate that all three biases have a statistically significant impact on investment decision-making, confirming that these psychological factors play a crucial role in shaping financial choices. With t-values showing significance for each bias, the findings suggest that these biases significantly influence how individuals approach their investment decisions. The study's conclusions offer valuable insights for financial institutions to better understand the cognitive drivers behind investment behavior and provide actionable recommendations to mitigate the effects of these biases in investment decision-making.

Keywords: *Investment Decision-Making, Disposition Bias, Representativeness Bias, Anchoring Bias, Indonesian Investors.*

1. INTRODUCTION

Investment decisions play a pivotal role in shaping an individual's financial trajectory, with numerous psychological and cognitive biases influencing these decisions. While traditional financial theory assumes that investors make decisions rationally, real-world investment behavior often deviates from these rational models due to various cognitive biases. Understanding these biases is crucial for both investors and financial advisors, as these biases can lead to suboptimal financial outcomes and inefficiencies in the market. Among the most prominent biases in investment decision-making are Disposition Bias, Representativeness Bias, and Anchoring Bias. These biases can heavily influence the way investors in emerging markets, such as Indonesia, evaluate investment opportunities and manage their portfolios, often leading to irrational decisions that do not align with optimal financial strategies.

Disposition Bias refers to the tendency of investors to sell winning stocks too early while holding onto losing stocks too long. This behavior stems from emotional factors, particularly the desire to avoid realizing losses and the tendency to seek out gains in a manner that reaffirms positive investment decisions (Shefrin & Statman, 1985). In the context of the Indonesian market, this bias is especially pertinent due to the relatively young investor base that may not have experienced the long-term effects of holding or selling assets. The Bursa Efek Indonesia (BEI), with its growing pool of retail investors, presents a unique environment where the effects of disposition bias can be more pronounced, as investors may lack the financial education to make decisions based on long-term performance rather than emotional responses to short-term fluctuations in asset values. The failure to recognize and manage disposition bias can result in suboptimal portfolio performance, as investors may miss out on future gains by prematurely selling assets and unnecessarily holding onto underperforming ones.

Another critical bias influencing investment decisions is Representativeness Bias, which occurs when investors make judgments about the likelihood of future events based on how similar they are to past events or patterns (Tversky & Kahneman, 1974). In investment decisions, representativeness bias leads individuals to assume that past trends in

stock performance will continue indefinitely, even when market conditions change. For example, an investor may believe that a particular stock will continue to perform well simply because it has been successful in the past, disregarding potential changes in market conditions, company fundamentals, or broader economic factors. In Indonesia's rapidly growing market, where information may be scarce or difficult to access, representativeness bias can significantly impact decision-making, as investors may rely too heavily on past performance without considering the broader context. This bias can result in overconfidence in certain assets, leading to an inflated sense of security in investments that may be due for a correction.

Anchoring Bias is another key factor affecting investment decisions. This bias occurs when individuals rely too heavily on an initial piece of information, or "anchor," when making decisions, even if that information is irrelevant or outdated (Epley & Gilovich, 2006). In the investment context, anchoring can manifest when an investor bases their investment decisions on the price at which an asset was originally purchased or the price of a stock at the time of its initial public offering (IPO), even when the current market conditions suggest that the stock should be valued differently. For example, an investor who purchased a stock at a high price may hold on to it, believing it will return to its original value, despite evidence that the stock is overvalued or the company's prospects have changed. In Indonesia, where many retail investors may lack formal financial education and may rely on limited or biased sources of information, anchoring bias can lead to poor decision-making, especially when investors are influenced by initial market prices or the opinions of others without reassessing the situation as conditions evolve.

The Bursa Efek Indonesia (BEI) provides an ideal setting to study these biases. As the Indonesian stock market continues to develop and attract a growing number of retail investors, many of whom are relatively new to investing, it becomes increasingly important to understand how these biases shape their decisions. The Indonesian investor base is diverse, with varying levels of financial knowledge, and many investors may rely on emotional responses or social cues when making investment choices. In this context, biases like disposition, representativeness, and anchoring are particularly relevant, as they can heavily influence the way investors assess risk, perceive future returns, and make decisions that affect their long-term financial outcomes.

This study aims to explore how Disposition Bias, Representativeness Bias, and Anchoring Bias affect investment decisions among Indonesian investors participating in the Bursa Efek Indonesia (BEI). By examining the psychological factors that drive investment choices, the research will offer valuable insights into how investors' cognitive biases shape their behavior and affect market outcomes. It will also provide important implications for financial advisors, policymakers, and the investors themselves, helping them to recognize and mitigate the impact of these biases in their investment decision-making processes.

The findings of this research are expected to contribute to the broader field of behavioral finance by deepening our understanding of how psychological factors influence financial decisions in emerging markets. Moreover, the results can inform the development of investor education programs and behavioral interventions designed to help Indonesian investors make more rational and informed investment choices, ultimately improving financial outcomes and market efficiency.

This bias significantly affects investment decisions by leading to suboptimal portfolio management. Investors may ignore rational financial analysis and base their decisions on emotional reactions to gains and losses. As a result, they might miss opportunities to rebalance portfolios or cut losses when needed, ultimately reducing overall performance and increasing exposure to underperforming assets (Weber & Camerer, 1998). The disposition effect reflects how emotional and psychological factors can override logical reasoning in financial behavior.

H1: Disposition effect has a significant effect on investment decision.

This bias affects investment decisions by encouraging overreliance on superficial or historical patterns rather than deep fundamental analysis. For example, investors may invest in "hot" stocks or trending industries without considering long-term sustainability or intrinsic value. Such behavior often results in poor timing, increased risk exposure, and participation in speculative bubbles (Ritter, 2003). Representativeness bias, therefore, distorts rational judgment and contributes to misguided investment strategies.

H2: Representativeness bias has a significant effect on investment decision.

This bias leads investors to hold onto assets inappropriately or resist changing their strategies, even when new and relevant information is available. For example, an investor may refuse to sell a declining stock because they are anchored to its peak price, waiting for it to "bounce back" despite evidence suggesting further decline. Anchoring bias, therefore, reduces decision-making flexibility and responsiveness to market changes, increasing the likelihood of loss and missed opportunity (Tversky & Kahneman, 1974).

H3: Anchoring bias has a significant effect on investment decision.

Investment decisions are also influenced by internal factors such as cognitive biases (e.g., overconfidence, anchoring, and representativeness) and external influences like social norms or market sentiment. These behavioral influences can result in systematic deviations from optimal financial behavior, including under-diversification, excessive trading, trend chasing, and suboptimal timing.

In essence, the investment decision is a multidimensional process involving economic calculations, psychological tendencies, and social influences. Understanding this complexity is essential for explaining why actual investor behavior often diverges from traditional financial theory.

2. RESEARCH METHODS

This research investigates the influence of three key cognitive biases—disposition bias, representativeness bias, and anchoring bias—as independent variables, with the expectation that these biases will significantly impact investment decision-making. The dependent variable in this study is investment decision-making, which reflects how these cognitive biases shape an investor's financial choices. The study also aims to explore the relationship between these biases and the decisions investors make, specifically in the context of their investment behavior and subsequent choices.

The target population for this study consists of Indonesian investors aged 18 to 60 years. Respondents were selected based on their prior experience in capital market investments, regardless of the type of investment. The sample design ensured a balanced gender representation, with 43% male and 57% female participants. Data collection was conducted through a structured questionnaire, which provided consistent and reliable responses. The sample size of 105 respondents was used to test the three hypotheses related to the impact of cognitive biases on investment decisions. Data analysis was performed using SPSS 20.0, ensuring a rigorous statistical approach to evaluate the significance of each bias and its influence on investment decision-making.

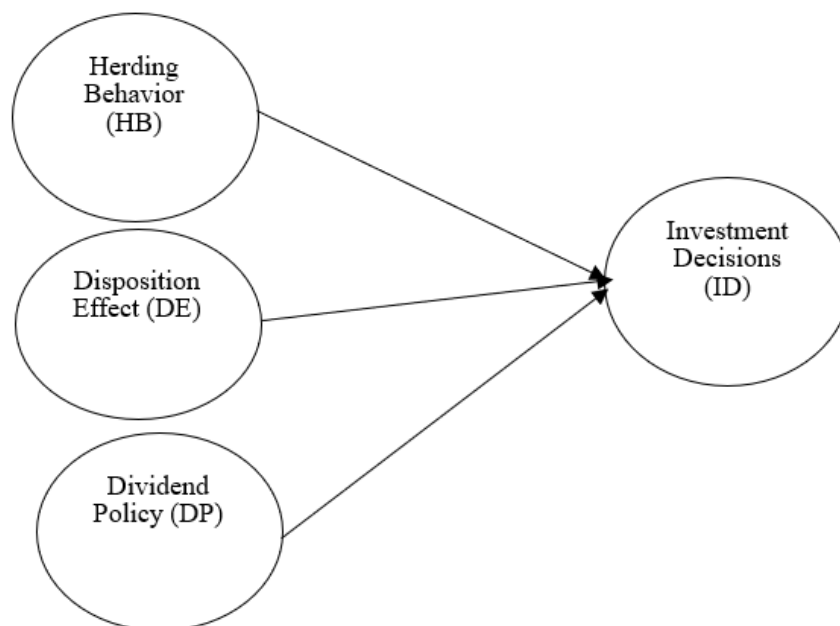


Figure 1. Research Model

3. RESULTS AND DISCUSSIONS

3.1. Validity, Reliability Test and Multicollinearity Test

As presented in Table 1, the validity test results indicate that all indicators for Disposition Bias (DB), Representativeness Bias (RB), Anchoring Bias (AB), and Investment Decision (ID) have satisfactory validity, with corrected item-total correlation values exceeding 0.196. The reliability analysis confirms that all variables exhibit strong internal consistency, with Cronbach's alpha values above 0.60.

The multicollinearity test shows that tolerance values for all variables are above 0.1 and the VIF values are below 10, indicating no issues with multicollinearity. Each variable thus contributes uniquely to the analysis and is appropriate for use in the regression models.

Table 1. Validity, Reliability, and Multicollinearity Test

Variable	Indicator	Validity Test	Reliability Test	Tolerance	VIF
Disposition Bias (DB)	DB1	0.615	0.806	0.330	3.030
	DB2	0.589			
	DB3	0.572			
Representativeness Bias (RB)	RB1	0.601	0.792	0.318	3.141
	RB2	0.577			
	RB3	0.550			
Anchoring Bias (AB)	AB1	0.643	0.794	0.336	2.973
	AB2	0.617			
	AB3	0.586			
Investment Decision (ID)	ID1	0.589	0.797	-	-
	ID2	0.707			
	ID3	0.646			

3.2 T-Test and Coefficient Regression

The results from the significance tests presented in Table 2 indicate that all three hypotheses were supported, with no hypotheses rejected. Specifically, the p-values for DB*ID, RB*ID, and AB*ID are all below 0.05, signifying statistical significance and supporting the respective hypotheses. This suggests that the interactions between Disposition Bias (DB), Representativeness Bias (RB), Anchoring Bias (AB), and Investment Decision (ID) have a meaningful impact on the dependent variable, Investment Decision.

Regarding the regression coefficients, AB*ID exhibits the strongest positive influence, with a coefficient of 0.441. This indicates that Anchoring Bias (AB), when combined with Investment Decision (ID), has a notably strong impact on decision-making. In particular, this suggests that individuals' judgments are heavily influenced by reference points or anchors when making investment decisions, making this bias one of the most significant factors in shaping Investment Decision.

Following this, RB*ID shows a positive relationship with a coefficient of 0.394, suggesting that Representativeness Bias (RB) has a moderate yet important effect on investment decisions. This finding implies that when individuals use heuristics based on past experiences or patterns, it significantly influences their decisions, though slightly less strongly than Anchoring Bias. Lastly, DB*ID shows a positive relationship with a coefficient of 0.344, suggesting that Disposition Bias (DB) also correlates positively with Investment Decision (ID). This means that individuals with Disposition Bias tend to make investment decisions based on emotional reactions to gains and losses, such as selling winning investments too early and holding onto losing ones too long. However, this effect is weaker than that of Anchoring Bias and Representativeness Bias.

In conclusion, all three hypotheses are supported, and the results indicate that the interactions between DB, RB, AB, and ID are significant. Among these, AB*ID demonstrates the strongest positive influence on investment decisions, followed by RB*ID, while DB*ID shows a positive but relatively weaker effect. The acceptance of all hypotheses, based on the significance of their p-values, emphasizes the importance of Disposition Bias, Representativeness Bias, and Anchoring Bias in shaping investment decision-making.

Table 2. T-Test

Variable	Sig.	Coefficient Regression	Information
DB*ID	0.000	0.344	Hypothesis accepted
RB*ID	0.000	0.394	Hypothesis accepted
AB*ID	0.000	0.441	Hypothesis accepted

4. CONCLUSION

The results of the study confirm that all three hypotheses are supported, with significant relationships found between Disposition Bias (DB), Representativeness Bias (RB), Anchoring Bias (AB), and Investment Decisions (ID). The T-Test results show that all three cognitive biases have a significant impact on investment decisions, as indicated by the

p-values of 0.000, which are well below the significance level of 0.05. The regression coefficients show positive relationships between each bias and investment decisions: DB*ID (0.344), RB*ID (0.394), and AB*ID (0.441). These results underline the importance of cognitive biases in shaping investors' decision-making processes. Below are recommendations for each variable based on the findings:

The study found that Disposition Bias has a significant impact on investment decisions. Investors affected by disposition bias tend to sell their winning stocks too early and hold onto their losing stocks for too long, a behavior that can result in suboptimal investment outcomes.

Recommendation: Financial advisors and investment platforms should help investors recognize their biases by offering educational tools that raise awareness about the effects of disposition bias. Additionally, automatic sell rules or reminders to review portfolio performance regularly could help reduce the impact of this bias. Providing clients with decision-support tools that encourage rational decision-making, such as stop-loss orders or automated sell recommendations, can minimize the influence of emotional decision-making.

The Representativeness Bias was also shown to significantly affect investment decisions. Investors influenced by this bias often base their decisions on stereotypes or past patterns, overlooking important market changes.

Recommendation: To mitigate the effects of representativeness bias, financial institutions should focus on providing comprehensive and context-specific data. Educating investors on the importance of diversifying their portfolios and avoiding overreliance on past trends will help reduce the reliance on superficial similarities. Additionally, financial advisors should emphasize the importance of fundamental analysis over intuitive heuristics to make investment choices more robust and rational.

The study found that Anchoring Bias significantly influences investment decisions. Investors who rely too heavily on initial information, such as the purchase price of a stock, may fail to adjust their decisions as new data emerges.

Recommendation: Financial institutions should educate investors on the dangers of anchoring and encourage them to assess investment opportunities in light of current data rather than historical benchmarks. Implementing educational campaigns that highlight the importance of using updated information and avoiding undue attachment to initial prices can help investors make more informed, objective decisions. Moreover, investment platforms can provide tools that offer a broader range of data points and encourage investors to consider diverse factors when making decisions.

This study underscores the critical role of cognitive biases—such as Disposition Bias, Representativeness Bias, and Anchoring Bias—in shaping investment decisions. Recognizing and addressing these biases can lead to more rational decision-making and better financial outcomes. The findings suggest that financial advisors and institutions should focus on education, the development of decision-support tools, and the promotion of awareness regarding these biases to help investors make more informed, objective, and successful investment decisions.

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